



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,269	07/24/2007	Carlo Zanotta	05999.0292	1854

22852 7590 08/03/2010
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER
LLP
901 NEW YORK AVENUE, NW
WASHINGTON, DC 20001-4413

EXAMINER

MASHRUWALA, NIKHIL P

ART UNIT	PAPER NUMBER
----------	--------------

3749

MAIL DATE	DELIVERY MODE
-----------	---------------

08/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,269	Applicant(s) ZANOTTA, CARLO	
	Examiner NIKHIL MASHRUWALA	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/01/2010 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 30 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The limitation of '**overlapping layers**' is not clear. Figure 3 of the claim invention shows three separate layers of three different materials/densities but fails to clarify overlapping layers. Need proper correction and clarification as per original disclosure. For examining purpose the examiner is interpreting it as "three separate **layers** of three different materials/densities".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 3749

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 30-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over

US patent 6152974 of Delpiano et al (equivalent EP 930353) in view of US patent

6375691 of Zucchelli et al (equivalent EP 953628) and in further view of US patent

3,655,098 of Schnitzler.

For claim 30, Delpiano discloses a process for producing a refuse derived solid fuel and feeding said fuel to a combustion plant (see the abstract), which comprises: providing a first component USW consisting of a dry fraction of solid urban waste USW in a shredded form (see example 1, col 3, lines 52-57); providing at least one second component in a shredded form selected from an elastomeric material (col 4, lines 32-36) and a polymeric thermoplastic material B, (or mixtures thereof). Delpiano also discloses metering of these shredded components separately according to predetermined ratios in part D of mixing (col 4, 47-51 and claim 1g which is metering) but does not disclose feeding these shredded components on a continuous conveyor to form layers of shredded components in a temporary accumulation container. Schnitzler discloses feeding and forming different materials/components to form different layers of

Art Unit: 3749

the materials per fig 2 (3 different materials are separately metered and feeded to form overlapping layers 114a, 203a and 303a per fig 2) on a continuous conveyor 16. It would have been obvious for a person of ordinary skill in the art at the time the invention was made to provide such continuous conveyor to get different layers to Delpiano in view of Schnizler so that the mixture of the overlapping layers of varying bulk density would have better combustible properties. Neither Delpiano nor Schnizler discloses a temporary container for storage. Zucchelli discloses a temporary storage 14 at the end of the conveyor belt 19 (similar to silo 44 or 46) which would have been obvious for a person of ordinary skill in the art to be installed to the system of Delpiano (& Schnitzler) in view of Zucchelli so that the storage material of the shredded material layers can transported to a combustion plant for using as a fuel.

For claim 54 as applied to claim 30 above, Zucchelli discloses the plant per figs 8-9 for producing RDSF comprising storage/silos 46 & 44 for its two feeding components and all other limitations are disclosed by claim 30.

For claim 31, Delpiano discloses polymeric thermoplastic waste component like polymers of PE, LDPE, PET etc (col 1 lines 64-66) and it would be merely selection of material per MPEP 2144.04 to get waste plastic material for shredding of chlorine-free material having no vinyl polymers (or PVC) which would be harmful for combustion.

For claim 32, 34, 38 Delpiano (in view of Zucchelli) discloses at 90% least by weight of polymer particles are smaller than 7.5 mm (see col 2, lines 13-19) 0021).

For claim 33, Delpiano discloses elastomeric waste material made out of used tyres which are grounded and stripped/shredded of any ferrous material (col 2, lines

Art Unit: 3749

44-45).

For claims 35-37, the USW of Depliano (in view of Zucchelli) is obtained by mechanical separation, shedding and drying process (see col 2, lines 47-65) and having particle size of less particle size (7.5 mm).

For claims 39-40, dry fraction of USW has moisture content less than 10% (see col 1, line 54).

For claim 41, the RDSF per fig 8-9 of Zucchelli uses silo 46 for feeding into the combustion plant which was stored first in silo 40 passes to blade mill 41 for grounding. Such silos are compact and transportable per well know art of material storage.

For claims 42-43, solid-fuel of Depliano discloses density of 0.4 g/cm³ (col 2, line 18-19) and it would be merely a choice in design and selection of waste material to have bulk density between 0.60 to .90.

For claims 44-45, the prior art of Zucchelli discloses a metering screw 48 and feeding to a continuous conveyor per weight ratio as discussed in claim 1 of Delpiano along with preselectable amount (weight) of NFSF and it would be obvious to consider the same art for metering with a screw and feeding first and second waste components and it would have been obvious for a person of ordinary skill in the art to provide such features to Delpiano in view of Zucchelli so that metering screw would feed the material on the continuous belt which would be collected in a storage silo in layers to have a good premix combustible fuel material.

For claims 46-47, as discussed in claim 1 (& above in claims 44-45), it would be merely a choice in design per MPEP 2144.04 for the overlapping material layers

Art Unit: 3749

disclosed by Schnitzler to meter and layers the material per bulk density to increase from bottom to the top so as to get thermoplastic in lower layer, USW in intermediate layer and elastomeric material in the upper most layer which would give a better mixture of combustible material.

For claims 48-49, it would be merely a choice in design per MPEP 2144.04 by weight for RDSF fuel of Delpiano (also in view of Schnitzler) to get material composition like 40-90% (or 60-80%) of dry fraction of RDSF and 10-60% of at least one thermoplastic polymer material (or 20-40% of thermoplastic polymer material) selected from elastomeric material and thermoplastic material or mixtures thereof.

For claims 50-51, it would be merely a choice in design by weight to obtain RDSF fuel of Delpiano (in view of Schnitzler) to get material composition like 40-90% (60-80%) of dry fraction of RDSF fuel and 5-55% (or 10-30%) of elastomeric polymer material and 5-55% (or 10-30%) of thermoplastic polymer material.

For claims 52-53, Delpiano discloses a bulk density of 0.3 to 0.1 g/cm³ of RDSF and it would be merely a choice in design to obtain density of 0.60g.cm³ or 0.35 to .12 g/cm³ for optimization of the process.

For claim 55, as discussed above in claim 54 (& claim 30) for storing two shredded components in two silos 46,44 per fig 8-9 and also it discloses a third thermoplastic component which would be obvious to have similar metering and feeding device to that of component one and two per duplication parts of MPEP 2144.04.

For claims 56-57,as discussed in claim 34, Zucchelli discloses twin Archimedean screw line 48 (see col 7, lines 28-55) for metering (weighing) and feeding. It would be

Art Unit: 3749

merely a choice in design per MPEP 2144.04 for such metering screw to have an advancing rate which is regulated in relation to quantity of each component weighted.

For claim 58, as discussed in claim 30 (& 54) for collecting the layers of mixed components in a storage/bin and it would be an well known art per ordinary skill available in the market in packaging to have a device for compaction of this mixed components so as to store it in lesser space or area after being compacted.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art of Delpiano, Zucchelli and Schnitzler discloses the current state of the art in a process and plant for producing a refuse derived solid fuel.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIKHIL MASHRUWALA whose telephone number is (571)270-3519. The examiner can normally be reached on Monday thru Friday- 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nikhil Mashruwala/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749